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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,856	01/17/2006	Yasushi Inagaki	283026US90PCT	5109
22850 7590 01/02/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER PATEL, ISHWARBHAI B	
			ART UNIT 2841	PAPER NUMBER
			NOTIFICATION DATE 01/02/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/564,856

Applicant(s)

INAGAKI ET AL.

Examiner

Ishwar (I. B.) Patel

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 5-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/17 & 4/17 (3 pages).
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of specie II claims 1-5 in the reply filed on October 17, 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). As claim 5, with the limitation of a capacitor in not reading on the elected specie, claim 5 is further withdrawn from consideration. However, if a generic claim is allowed, the claim will be rejoined as stated in the restriction requirement. Claims 1-4 are examined. Claims 5-18 are withdrawn.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrase "electric connection is achieved through via holes," line 2-3, is unclear. The claim recites a multilayer printed wiring board with interlayer insulation layer and conductive layer in the previous lines. The structure of electric connection achieved through via holes is unclear, as no detail of the other conductive layers is recited.

Further, proper transitional phrase is missing. It is not clear where the preamble ends and the body of the claim starts. As a result, the scope of the claim is unclear.

Claims 2-4 depend upon claim 1 and carry the same deficiency.

Priority

4. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been received and placed of record in the file.

Specification

5. The disclosure is objected to because of the following informalities: "Fig. 10 (B)" and "Fig. 10 (C)", page 7, line 22, should be – Fig. 8 (B) --, and – 8 (C) --.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Strandberg (US Patent No. 6,323,435).

Regarding claim 1, Strandberg in figure 1-3 discloses a multilayer printed wiring board in which interlayer insulation layer (30, 40) and conductive layer (conductive layer on core substrate 12 and on interlayer insulation layer 30) are formed on a core

substrate (12) and electric connection is achieved through via holes (via holes formed in the insulating layers, only one shown in figure, 34), the thickness of conductive layer on said core substrate being larger than the thickness of the conductive layer on interlayer insulation layer (see figure), and the side face of the conductive layer on said core substrate being tapered (see figure 2, shown in more detail) and when it is assumed that an angle formed by a straight line connecting the top end and bottom end of the side face of the conductive layer and the horizontal face of the core substrate is θ , said θ satisfying a relational equation of $2.8 < \tan \theta \leq 55$ (measuring the dimension in figure 3, the value of $\tan \theta$ is more than 3:00, which meets the limitation).

Regarding claim 2, Strandberg further discloses assuming that the thickness of the conductive layer on said core substrate is $\alpha 1$ and the thickness of the conductive layer on the interlayer insulation layer is $\alpha 2$, a relation of $\alpha 2 < \alpha 1 < 40 \alpha 2$ exists (thickness measured in figure is about 6.5 mm and 3.5mm, which meets the limitation).

Regarding claim 3, Strandberg further discloses wherein said $\alpha 1$ is in the relation of $1.2 \alpha 2 < \alpha 1 < 40 \alpha 2$ (the thickness as shown above in claim 2, meets the limitation).

Regarding claim 4, Strandberg further discloses the conductive layer on the front and rear surfaces of said core substrate is a conductive layer for power source or a conductive layer for grounding (Strandberg disclose the conductive layer, using the layer as power or ground does not add any structural limitation).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Urasaki (US Patent No. 5,879,568) in figure 1I discloses a circuit board with conductive layer on core substrate (1) thicker than the conductive layer (3) on inter layer insulation layer (2).

Seki (US Patent No. 6,613,987) in figure 1a-1j discloses a circuit board with conductive layer (14) on core substrate (13) thicker than the conductive layer (19) on inter layer insulation layer (15).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar (I. B.) Patel whose telephone number is (571) 272 1933. The examiner can normally be reached on M-F (8:30 - 5:00).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272 2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 22, 2007


Ishwar (I. B.) Patel
Primary Examiner
Art Unit: 2841